WHAT IS CLAIMED IS:

1. An amplified solid-state image pickup device, comprising:

a plurality of pixels each including a photoelectric conversion element for converting incident light into an electric charge, and an amplifier for supplying a signal voltage according to an amount of charge generated by the conversion, wherein the plurality of pixels form an image pickup area, which is divided into a plurality of blocks;

a plurality of output amplifiers provided respectively for the plurality of blocks; and

signal voltage supply means for supplying signal voltages of different ones of the plurality of pixels respectively to the plurality of output amplifiers in a normal mode, while supplying a signal voltage of the same one of the plurality of pixels to the plurality of output amplifiers in a correction mode.

2. The amplified solid-state image pickup device of claim 1, wherein the plurality of pixels are each an amplified MOS image sensor.

3. The amplified solid-state image pickup device of claim 1, wherein:

the plurality of pixels are arranged in a two-dimensional matrix pattern; and

the signal voltage supply means includes:

a plurality of vertical signal lines each for transferring signal voltages of one or more of the plurality of pixels belonging to a corresponding column;

a vertical selection circuit for selecting ones of the plurality of pixels belonging to one horizontal line so that signal voltages of the pixels belonging to the horizontal line are supplied respectively onto the plurality of vertical signal lines;

a line memory including a plurality of memory cells each for temporarily storing a signal voltage being supplied onto a corresponding one of the plurality of vertical signal lines;

a plurality of horizontal signal lines each for transferring a signal voltage

to be supplied to a corresponding one of the plurality of output amplifiers; and

a horizontal selection circuit for selecting some of the signal voltages being temporarily stored in the line memory to be supplied to the plurality of horizontal signal lines.

4. The amplified solid-state image pickup device of claim 3, wherein:

memory cells that receive signal voltages from adjacent ones of the plurality of vertical signal lines are connected to different ones of the horizontal signal lines; and

the signal voltage supply means further includes a switch for connecting the plurality of horizontal signal lines with one another in the correction mode.

5. The amplified solid-state image pickup device of claim 3, wherein:

memory cells that are commonly connected to one of the plurality of horizontal signal lines receive signal voltages respectively from adjacent ones of the plurality of vertical signal lines; and

the signal voltage supply means further includes a switch, by which a signal voltage on a predetermined one of the plurality of vertical signal lines for one of the plurality of blocks is guided to another predetermined one of the plurality of vertical signal lines for another one of the plurality of blocks in the correction mode.

6. The amplified solid-state image pickup device of claim 3, wherein:

memory cells that are commonly connected to one of the plurality of horizontal signal lines receive signal voltages respectively from adjacent ones of the plurality of vertical signal lines; and

the line memory further includes an additional cell for temporarily storing a signal voltage on a predetermined one of the plurality of vertical signal lines for one of the plurality of blocks, and for supplying the temporarily stored signal voltage to a predetermined one of the plurality of horizontal signal lines for another one of the plurality of blocks.

7. The amplified solid-state image pickup device of claim 3, wherein

memory cells that are commonly connected to one of the plurality of horizontal signal lines receive signal voltages respectively from adjacent ones of the plurality of vertical signal lines; and

the signal voltage supply means further includes a switch for connecting the plurality of horizontal signal lines with one another in the correction mode.

8. An image pickup system, comprising the amplified solid-state image pickup device of any one of claims 1 to 7, and a level correction circuit for correcting gray level variations among outputs of the plurality of output amplifiers, wherein the level correction circuit includes:

an accumulated histogram production section for producing, for each block, an accumulated histogram for the number of pixels for each gray level, by using gray level data based on outputs of the plurality of output amplifiers in the correction mode;

a gray level conversion table production section for producing a table representing correspondence between un-corrected and corrected gray levels for one of the plurality of blocks to be corrected so as to reduce a difference between accumulated histograms for different blocks produced by the accumulated histogram production section; and

a gray level conversion section for non-linearly correcting, for each gray level, an output of one of the plurality of output amplifiers for the block to be corrected by using the produced table.